

WHAT IS CLAIMED IS:

1. A lithographic apparatus, comprising:
 - an illumination system configured to provide a projection beam of radiation;
 - a support configured to support a patterning structure which is configured to impart the projection beam with a pattern in its cross-section;
 - a substrate table configured to hold a substrate;
 - a projection system configured to project the patterned beam onto a target portion of the substrate;
 - a liquid supply system configured to at least partly fill a space between the projection system and the substrate with an immersion liquid; and
 - a power source configured to apply a first electrical potential across the immersion liquid supplied by the liquid supply system to move at least one of bubbles and particles in the immersion liquid.
2. An apparatus according to claim 1, wherein the first electrical potential is applied to a first object.
3. An apparatus according to claim 2, wherein the first object is in contact with the immersion liquid.
4. An apparatus according to claim 2, wherein the first object forms a border of the space.
5. An apparatus according to claim 1, wherein the first electrical potential is applied across the immersion liquid in the space.
6. An apparatus according to claim 2, wherein the first object is in contact with the immersion liquid in a supply channel upstream of the space.
7. An apparatus according to claim 1, wherein the first electrical potential is applied across the immersion liquid outside the space.

8. An apparatus according to claim 7, wherein the first electrical potential is applied across the immersion liquid in the liquid supply system.
9. An apparatus according to claim 1, wherein the first electrical potential is effective to exert a force on at least one of bubbles and particles in the immersion liquid in a direction away from the substrate.
10. An apparatus according to claim 1, further comprising a second power source configured to apply a second electrical potential across the immersion liquid.
11. An apparatus according to claim 10, wherein the second electrical potential is opposite in polarity to the first electrical potential.
12. An apparatus according to claim 10, wherein the second electrical potential is applied across the immersion liquid in the space.
13. An apparatus according to claim 10, wherein the second electrical potential is applied across the immersion fluid outside the space.
14. An apparatus according to claim 10, wherein the second electrical potential is applied to a second object
15. An apparatus according to claim 14, wherein the second object forms a border of the space.
16. An apparatus according to claim 14, wherein the second object is in contact with the immersion liquid in a supply channel upstream of the space.
17. An apparatus according to claim 1, wherein the first electrical potential is effective to exert a force on at least one of bubbles and particles in the immersion liquid in a direction such that when in the space, the bubbles will be further from the substrate than if no electrical potential was applied to the object.

18. An apparatus according to claim 1, wherein the first electrical potential is between $\pm 5\text{mV}$ and $\pm 5\text{V}$.
19. An apparatus according to claim 1, wherein the first electrical potential is between 10mV and 500mV .
20. An apparatus according to claim 1, wherein the first electrical potential is effective to set up an electrical field of up to 500 mV/mm .
21. An apparatus according to claim 1, wherein the first electrical potential is of different polarity to an electrokinetic potential of a surface of at least one of bubbles and particles in the immersion liquid.
22. An apparatus according to claim 10, wherein the second electrical potential is of the same polarity as an electrokinetic potential of a surface of at least one of bubbles and particles in the immersion liquid.
23. An apparatus according to claim 1, wherein the first object is the substrate.
24. An apparatus according to claim 10, wherein the second object is a final element of the projection system.
25. An apparatus according to claim 2, wherein the first object lies in the optical axis of the apparatus.
26. An apparatus according to claim 2, wherein the first object forms a border of the space and is positioned distal from the optical axis of the apparatus.
27. An apparatus according to claim 2, wherein the first object is positioned on a barrier member which extends along at least a part of a boundary of the space.

28. A lithographic apparatus, comprising:
- an illumination system configured to provide a projection beam of radiation;
 - a support configured to support a patterning structure which is configured to impart the projection beam with a pattern in its cross-section;
 - a substrate table configured to hold a substrate;
 - a projection system configured to project the patterned beam onto a target portion of the substrate;
 - a liquid supply system configured to at least partly fill a space between the projection system and the substrate with an immersion liquid; and
 - the liquid supply system having means for moving at least one of bubbles and particles in the immersion liquid supplied by the liquid supply system by the application of a voltage.
29. A lithographic apparatus, comprising:
- an illumination system configured to provide a projection beam of radiation;
 - a support configured to support a patterning structure configured to impart the projection beam with a pattern in its cross-section;
 - a substrate table configured to hold a substrate;
 - a projection system configured to project the patterned beam onto a target portion of the substrate;
 - a liquid supply system configured to at least partly fill a space between the projection system and the substrate with an immersion liquid, wherein the liquid supply system comprises means for applying a charge to an object, the charge being opposite in polarity to an electrokinetic potential of bubbles in the immersion liquid such that at least one of bubbles and particles in the immersion liquid supplied by the liquid supply system have a force on them in a direction away from or towards the object.
30. A lithographic apparatus, comprising:
- an illumination system configured to provide a projection beam of radiation;
 - a support configured to support a patterning structure which is configured to impart the projection beam with a pattern in its cross-section;
 - a substrate table configured to hold a substrate;
 - a projection system configured to project the patterned beam onto a target portion of the

substrate;

a liquid supply system configured to at least partly fill a space between the projection system and the substrate with an immersion liquid;

the liquid supply system having a potential field generator configured to generate an electrical field in the immersion liquid effective to move at least one of bubbles and particles in the immersion liquid supplied by the liquid supply system.

31. A device manufacturing method, comprising:

projecting a patterned beam of radiation onto a target portion of a substrate using a projection system;

providing an immersion liquid from a liquid supply system to the space between the projection system and the substrate; and

applying a force on at least one of bubbles and particles in the immersion liquid provided by the liquid supply system by applying a charge to an object.

32. A method according to claim 31, wherein the object forms a border of the space.

33. A method according to claim 31, wherein the object is in contact with the immersion liquid in a supply channel upstream of the space.